

# ABSTRACT

A sensor element for a sensor for determining the concentration of a gas component in a gas mixture, in particular the oxygen concentration in the exhaust gas of internal combustion engines, has two electrodes which, together with a solid electrolyte, form a pump cell, and one of these electrodes is exposed to the gas mixture via a porous protective layer. The sensor element also has a reference electrode which is situated on the solid electrolyte and is exposed to a reference gas. One of the two electrodes, with a reference electrode and the solid electrolyte, forms a concentration cell or a Nernst cell. To make the measured values produced by the sensor element insensitive to pressure fluctuations in the gas mixture, the electrode surface of the second electrode facing away from the solid electrolyte is coated with a finely porous diffusion layer, which is directly exposed to the gas mixture, and the second electrode is used as the reference electrode of the Nernst cell. It is also provided that the porous protective layer may be configured as a coarsely porous diffusion layer, and either of the two electrodes may be used as a reference electrode of the Nernst cell.